

REMARKS

By the present Amendment, claims 1 and 13 have been amended. Claims 30 and 32-37 have been cancelled. Accordingly, claims 1-6, 8-10, 12-14, 17-22, 28, 29, 31, 38, and 39 remain pending in the application. Claims 1, 13, 28, and 38 are independent.

In the application of July 3, 2007, claim 1 was objected to because of an informality. Claim 17 was objected to under 37 C.F.R. §1.75(c) as being of improper dependent form. Claims 38 and 39 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,897,996 issued to Ikeda et al ("Ikeda"). Claims 1-6, 8-10, 12-14, 17-22, 27-29 and 31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ikeda in view of U.S. Patent Publication 2002/0167480 to Johnson et al ("Johnson"). These rejections are respectfully traversed.

Claim 1 was objected to because of an informality. Regarding this objection, the Office Action identifies what appears to have been a typographical error in the claim language.

By the present Amendment, Applicants have amended independent claim 1, in part, to correct the typographical error. Withdrawal of this objection is also respectfully requested.

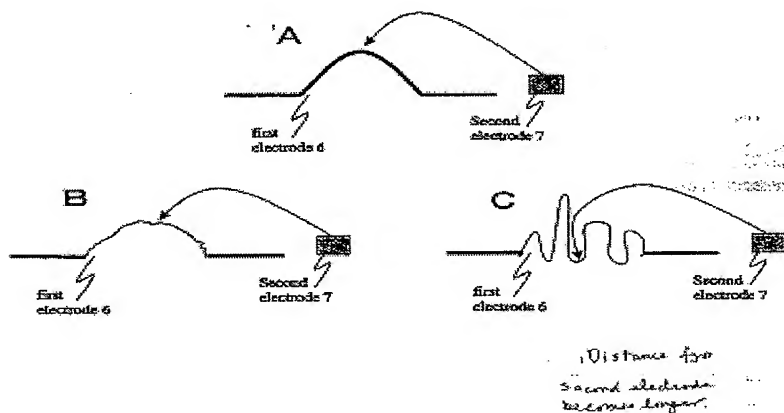
Claim 17 was objected to under 37 C.F.R. §1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. By the present Amendment, Applicants have revised the language of independent claim 13 so that it will be further limited by claim 17.

Withdrawal of this objection is therefore respectfully requested.

Claims 38 and 39 were rejected under 35 U.S.C. §102(e) as being anticipated by Ikeda. Regarding this rejection, the Office Action alleges that Ikeda discloses an

electrophoretic display that comprises a first and second substrate disposed with a predetermined gap between them; a layer comprising a transparent insulating solvent and charged particles dispersed in the solvent, with the layer being sandwiched between the substrates; a first electrode disposed in the layer between the first and second substrates to apply an electric field to the layer; and a second electrode that is supported by the second substrate to apply an electric field to the electric layer. The Office Action further alleges that the second electrode is provided with a plurality of bumps for reflecting light and that the bumps are formed continuously and arranged randomly. In particular the Office Action directs reference to column 9, lines 7-17 and column 10, lines 55-60, of Ikeda for disclosing this particular feature. Applicants respectfully disagree.

According to Ikeda, when the first electrode is used to display white, the electrode surface is roughened so as to irregularly reflect the light. Alternatively, a light scattering layer can be formed on the electrode. This suggests that only a single roughened bump is present in the pixel. Further, since Ikeda performs this roughening process for purposes of scattering the reflected light, the resulting surface would resemble the image shown in Fig. B below after the image in Fig. A has been roughened.



Ikeda goes on to indicate "since the protrusion of the first electrode decreases the distance along the electric field between the surface of the first electrode and the surface of the second electrode, the electric field intensity between them is intensified thereby. However, if the heights of the protrusion are too large, the distance to the second electrode will increase on the contrary, and the electric field will become weaker against expectation." See column 4, lines 60-67. Accordingly, if the bumps of Ikeda were continuously formed and randomly arranged as in the claimed invention, the resulting electrode would have an increased length, thereby weakening the overall electric field. See Fig. B above. Accordingly, the disclosure of Ikeda itself suggests a teaching away from the claimed invention wherein the bumps are continuously arranged, because such an arrangement would necessarily weaken the electric field. Consequently, the resulting irregularity formed on the electrode surface of Ikeda differs significantly from the bumps of the claimed invention. Further, Ikeda specifically states that increasing the length of the electrode would decrease the resulting electric field. Accordingly, there would be no motivation for a skilled artisan to create bumps as set forth in independent claim 38. Rather, one would properly interpret the disclosure of Ikeda as meaning that a single bump on the pixel is roughened in order to scatter the reflected light. The cited reference simply fails to provide any disclosure or suggestion for features recited in independent claim 1, such as "wherein the bumps are formed continuously and arranged randomly."

It is therefore respectfully submitted that independent claim 38 is allowable over the art of record.

Claim 39 depends from independent claim 38, and is therefore believed allowable for at least the reasons set forth above with respect to independent

claim 38. In addition, this claim introduces the novel element that independently render it patentable over the art of record.

Claims 1-6, 8-10, 12-14, 17-22, 27-29, and 31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ikeda in view of Johnson. Regarding this rejection, the Office Action principally alleges that Ikeda discloses all the features of the claimed invention, with the exception of the electrodes being disposed such that they are opposite to each other, wherein the first electrode has a network structure with a window in each pixel, wherein the electrode is divided into a plurality of segments per pixel with the segments having the same voltage in the pixel, and wherein the bumps on the second electrode are formed in a string-like form. Johnson is relied upon for disclosing these additional features. In particular, Johnson is relied upon for disclosing the first electrode segment having the same voltage in the pixel. The Office Action directs reference to paragraphs [0031] – [0035] of Johnson. Applicants respectfully disagree.

According to independent claim 1, for example, the segments of the first electrode are always connected to each other. Therefore, they always have the same voltage. In contrast, the electrodes in Johnson are arranged such that it is possible that they can have the same potential under specific arrangements. However, such a situation is purely random. This disclosure differs from that of the claimed invention wherein the segments are always connected and have the same voltage.

It is therefore respectfully submitted that independent claim 1 is allowable over the art of record.

Claims 3, 10 and 12 depend from independent claim 1, and are therefore believed to be allowable for at least the reasons set forth above with respect to

independent claim 1. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

As amended, independent claim 13 defines an electrophoretic display that comprises:

An electrophoretic display comprising a first and second substrates arranged with a predetermined space; a layer sandwiched between the substrates and comprising an insulating solvent and charged particles dispersed in the solvent; a first electrode disposed on the first substrate or the second substrate; and a second electrode disposed on the second substrate in such a manner that the first and second electrodes are opposite to each other in a pixel, wherein the first electrode is divided into a plurality of segments per pixel and the segments are connected and have the same voltage in the pixel, wherein the first electrode has a network structure with a window in each pixel and wherein the second electrode has an uneven surface comprising a plurality of bumps and concaves having a random pattern, the bumps being formed continuously in a string like form.

Independent claim 13 includes various features that are somewhat similar to those recited in independent claim 1. For example, the first electrode is divided into a plurality of segments per pixel, and the segments are connected to each other have the same voltage in the pixel. Additionally, the second electrode is provided with a reflector function with an uneven surface that comprises a plurality of bumps in each pixel. The bumps are also formed continuously and arranged in a string like configuration. As previously discussed, the art of record simply fails to provide any disclosure or suggestion for these features.

It is therefore respectfully submitted that independent claim 13 is allowable over the art of record.

Claims 2, 4-6, 8, 9, 14, 17, 18, and 27 depend, either directly or indirectly, from independent claim 13, and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 13. In addition, these

claims each introduce novel elements that independently render them patentable over the art of record.

Independent claim 28 defines an electrophoretic display that includes various features that are somewhat similar to those discussed with respect to independent claim 1. For example, each of these independent claims includes bumps that are formed continuously, and arranged in a random fashion. As previously discussed, such features are not shown or suggested by the art of record.

Claims 29 and 31 depend from independent claim 28, and are therefore believed allowable over the art of record.


For the reasons stated above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a Notice of Allowance is believed in order, and courteously solicited.

If the Examiner believes that there are any matters which can be resolved by way of either a personal or telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the number indicated below.

AUTHORIZATION

Applicants request any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 520.42879X00).

Respectfully submitted,
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Dated: October 31, 2007